

## Protocol Systematic review

*Authors: Liesbet Saenen, Katrien Hermans, Katrien Struyven and Elke Emmers*

*Duration: June 2023 - December 2023*

### 1. INTRODUCTION

A systematic literature review (SLR) will be conducted using [PRISMA guidelines](#) to examine implemented strategies and their effectiveness in current UD models for excellent inclusive learning environments in higher education.

### 2. RESEARCH QUESTIONS

How is UD already applied in inclusive learning environments in higher education?

1. *Which outcomes are linked to which strategies in a **traditional** learning environment in higher education where UD strategies are implemented?*
2. *Which outcomes are linked to which strategy, specifically in a **non-traditional** learning environment in higher education where UD strategies are implemented?*

### 3. SEARCH TERMS

- “universal design”
- UD
- “inclusive learning environment”
  
- “higher education”
- HE
- “inclusive higher education”
- IHE
- university
- college
  
- effectiveness
- outcome
- impact
  
- non-traditional
- e-learning
- online
- e-inclusion
- hybrid
- distance
- remote
- digital
- blended

### 4. SEARCH STRINGS IN TITLE AND/OR ABSTRACT

**Search string 1:**

(abstract(UD) OR abstract("universal design") OR abstract("inclusive learning environment")) AND (abstract(impact) OR abstract(effectiveness) OR abstract(outcome)) AND (abstract(university) OR abstract(college) OR abstract("higher education") OR abstract(HE) OR abstract("inclusive higher education") OR abstract(IHE))

**Search string 2:**

(abstract(UD) OR abstract("universal design")) OR abstract("inclusive learning environment")) AND (abstract(impact) OR abstract(effectiveness) OR abstract(outcome)) AND (abstract(university) OR abstract(college) OR abstract("higher education") OR abstract(HE) OR abstract("inclusive higher education") OR abstract(IHE)) AND (abstract(non-traditional) OR abstract(online) OR abstract(e-learning) OR abstract(e-inclusion) OR abstract(distance) OR abstract(remote) OR abstract(hybrid) OR abstract(digital) OR abstract(blended))

## **5. DATABASES**

- Web of Science
- ERIC
- Scopus

## **6. INCLUSION CRITERIA**

### **Search string 1:**

- Empirical studies and reviews
- Studies that are written in English or Dutch
- Studies published between 2013 and 2023
- Studies that report on implemented UD strategies in online or offline learning environments in higher education
- Studies that report on the effectiveness, impact or outcomes of implemented UD strategies in online or offline learning environments in higher education

### **Search string 2:**

Appended to the criteria of search string 1:

- Studies that specifically include references to 'online' learning, such as non-traditional learning, blended learning, hybrid learning, digital learning, distance learning, e-inclusion, remote learning, or e-learning in their learning environment.

## **7. EXCLUSION CRITERIA**

### **Search string 1**

- Conceptual papers, books
- Studies that are not written in English or Dutch
- Studies published before 2013  
The pioneer authors of articles that fall outside the common range of 10 years but who are nevertheless regularly mentioned in the articles found or relevant articles from the reference lists of these articles can still be selected and assessed.
- Studies that examine UD strategies beyond the scope of online or offline learning environments in higher education.
- Studies that do not report on the effectiveness, impact or outcomes of implemented UD strategies in online or offline learning environments in higher education

### **Search string 2**

Appended to the criteria of search string 1:

- Studies that don't include references to 'online' learning, such as non-traditional learning, blended learning, hybrid learning, digital learning, distance learning, remote learning, e-learning, or e-inclusion in their learning environment.

## **8. DATA EXTRACTION**

The following information will be extracted from each study:

- Study citation information (author, year, title, journal, URL/DOI, abstract, country)
- Research design
- Participants (number, demographics)

- Learning environment (offline or online)
- UD strategies implemented
- Outcome measured
- Results (effect size, statistical significance)
- Discussion/conclusion (future research suggestions, limitations)

#### **9. QUALITY Assessment TOOL**

The Quality Assessment Tool for Studies with Diverse Designs ([QATSDD](#)) will be used to assess the quality of the included studies. This tool assesses the quality of quantitative, qualitative, and mixed methods studies. The tool assesses the study's internal validity, external validity, and reliability. Studies will be rated as low, moderate, or high quality.

#### **10. DATA SYNTHESIS**

Data will be synthesized using a narrative synthesis approach. Findings from the included studies will be summarized, and similarities and differences will be explored. The reported UD strategies and their outcomes for inclusive learning environments in higher education will be discussed, both for the traditional learning environment and for the non-traditional learning environment as well.